

June 15, 2016



U.S. Department
of Transportation

East Building, PHH-30
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 16391
(SECOND REVISION)

EXPIRATION DATE:2016-12-31

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Halliburton Energy Services, Inc.
Carrollton, TX
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale and use of non-DOT specification cylinders used in oil well sampling. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
 - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.201, 173.302(a)(1) and 173.304(a)(1) in that non-DOT specification cylinders are not authorized and § 173.301(f) in that a cylinder filled with gas and offered for transportation must be equipped with one or more pressure relief devices, except as specified herein.

5. BASIS: This special permit is based on the application of Halliburton Energy Services, Inc. dated January 28, 2015, submitted in accordance with § 107.105 and the public proceeding thereon and additional information dated September 3, 2015 and May 24, 2016.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Hydrocarbon gas mixture, compressed, n.o.s.	2.1	UN1964	N/A
Hydrocarbon gas mixture, liquefied, n.o.s.	2.1	UN1965	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Petroleum crude oil	3	UN1267	I

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification oil well sampling cylinder, threaded on both ends, with a service pressure of 14,000 psig, and a maximum water capacity of 0.48 gallon (1,830 cubic centimeters). Each cylinder must comply with the design calculations, drawings, material specifications and engineering specifications submitted with Haliburton Energy Services, Inc.'s application for special permit on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD). In addition, each cylinder must conform to §§ 178.35 and 178.36 except as follows:

§ 178.35(e) Safety devices.

No pressure relief device is required on the completed cylinder. The cylinder must be equipped with elastomeric seals that relieve pressure when subjected to a pool fire.

§ 178.35(f) Marking.

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Applies except that cylinders must be marked "DOT-SP 16391" in lieu of the DOT specification marking. The marking must be clearly visible and no less than 1/8 inches high.

§ 178.36(b) Steel.

17-4 PH stainless steel (UNS S17400) must meet the requirements of Halliburton specification ES-H-118-3 Rev D. Material must meet the requirements of the National Association of Corrosion Engineers (NACE) Specification MR-01-75 for suitability in hydrogen sulfide (H₂S) service.

§ 178.36(f) Wall thickness.

Minimum wall thickness may not be less than 0.330 inch. In no instance may the wall stress at the minimum specified test pressure exceed 67% of the minimum tensile strength of the material as determined from the reported physical test results.

§ 178.36(g) Heat treatment.

No heat treatment required for the completed cylinder. However, the heat treatment of the purchased stock material must conform to the Halliburton Technology Specification 770.10907 as applicable on file with the OHMSAPD.

§ 178.36(j) Flattening test.

No flattening test is required.

§ 178.36(l) Acceptable results for physical tests.

(1) For 17-PH bar stock:	
Minimum Tensile strength:	125,000 psi
Minimum Yield strength:	75,000 psi
Elongation:	16% on 1 inch gage specimen or in 4D
Reduction in area:	50% minimum
Hardness:	33 Rc Maximum(319HB)

(2) Yield strength must be determined by the "offset"

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method as prescribed in ASTM Standard E8. Cross-head speed of the testing machine may not exceed 1/8 inch per minute during yield strength determination.

b. TESTING - Each cylinder must be reinspected and hydrostatically retested in accordance with § 180.205 as prescribed for DOT 3A specification cylinders. Reheat treatment or repair of rejected cylinders is not permitted.

c. OPERATIONAL CONTROLS -

(1) A maximum of 400 cubic centimeters of hazardous materials is authorized to be transported within the cylinder.

(2) Each cylinder must be packed in the transportation box as specified in the application for special permit on file with the OHMSAPD.

(3) Emergency response information provided with the shipment, and available via an emergency response telephone number, must indicate that the receptacles are not fitted with pressure relief devices and provide appropriate guidance in case receptacles are exposed to fire.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a package covered by this special permit, may reoffer it for transportation provided no modification or change is made to the package and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the

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facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

- e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo aircraft only, cargo vessel and rail freight.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
 - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

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No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 Immediate notice of certain hazardous materials incidents, and 171.16 Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: WEST FREEMAN/NICKS